UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,426	02/08/2001	Daniel L. Roth	10663-013001	5617

26161   7590   11/01/2007
FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER
VO, HUYEN X

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
11/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/779,426	ROTH ET AL.
	Examiner	**Art Unit**	
	Huyen X. Vo	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 August 2007</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3-9,17 and 19-39</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3-9,17 and 19-39</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>13 August 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendments

1.   Applicant's arguments filed 8/16/2007 have been fully considered but they are

not persuasive. In further consideration of the prior art of record, Iso-Sipilaet et al.

(6697782) fully anticipates the newly added limitation regarding *"ignoring or discarding*

the input in response to said speech comparison process determining that the input is

non-speech" (transition from state 3 to state 5 in figure 2; when the input is uncertain or

very uncertain recognition (or noise), the input is discarded as indicated in the transition

from state 3 to state 5 in figure 2). Therefore, examiner maintains previous ground of

rejection.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for
> patent, published under section 122(b), by another filed in the United States before the invention by
> the applicant for patent or (2) a patent granted on an application for patent by another filed in the
> United States before the invention by the applicant for patent, except that an international application
> filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of
> an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1, 38, 17, 19-22, 24-32, and 34-39 are rejected under 35 U.S.C. 102(e)

as being anticipated by Iso-Sipilaet et al. (US 6697782).

4.   Regarding claims 1 and 17, Iso-Sipilaet et al. disclose a feedback process and

method for providing feedback for unrecognized speech comprising:

an input process for receiving a speech command as spoken by a user (*col. 6, line 63 to col. 7, line 5 and referring to 10b in figure 5*); and

a speech comparison process, responsive to said input process, for comparing an input to a plurality of recognized speech commands available in a speech library (*memory 4 in figure 5 contains speech recognition models*) according to acoustical scores that indicate a level of acoustical match between the input and the respective recognized speech commands to determine if the input is recognized speech corresponding to an acoustical score above a first threshold value, unrecognized speech corresponding to an acoustical score below the first threshold value and above a second threshold value, or non-speech corresponding to an acoustical score below the second threshold value (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*); and

a response process for taking an appropriate action in response to said speech comparison process determining that the input is recognized speech, generating a generic response which is provided to said user in response to said speech comparison process determining that the input is unrecognized speech (*col. 10, lines 30-40 specifically indicates that "the user can be informed of the failure of the recognition of the first stage and be requested to utter the command word again"; the terms "informed" and "requested" suggest a generic response to the user due to recognition failure of the input command word; also referring to col. 4, lines 1-30*), and ignoring or discarding the

input in response to said speech comparison process determining that the input is non-speech (*transition from state 3 to state 5 in figure 2; when the input is uncertain or very uncertain recognition (or noise), the input is discarded as indicated in the transition from state 3 to state 5 in figure 2*).

5.   Regarding claims 24 and 28, Iso-Sipilaet et al. disclose a computer program product residing on a computer readable medium having a plurality of instructions stored thereon and a processor and memory configured to:

receive an input (*col. 6, line 63 to col. 7, line 5 and referring to 10b in figure 5*); and

compare the input to a plurality of recognized speech commands available in a speech library (*memory 4 in figure 5 contains speech recognition models*) according to acoustical scores that indicate a level of acoustical match between the input and the respective recognized speech commands to determine if the input is recognized speech corresponding to an acoustical score above a first threshold value, unrecognized speech corresponding to an acoustical score below the first threshold value and above a second threshold value, or non-speech corresponding to an acoustical score below the second threshold value (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*).

take an appropriate action if it is determined that the input is recognized speech, generate a generic response and provide it to a user if it is determined that the input is

unrecognized speech (*col. 10, lines 30-41*), and ignoring or discarding the input in response to said speech comparison process determining that the input is non-speech (*transition from state 3 to state 5 in figure 2; when the input is uncertain or very uncertain recognition (or noise), the input is discarded as indicated in the transition from state 3 to state 5 in figure 2*).

6.   Regarding claim 34, Iso-Sipilaet et al. further disclose a method comprising:

        accepting data representing an audio signal (*col. 6, line 63 to col. 7, line 5 and referring to 10b in figure 5*);

        using speech models according to acoustical scores that indicate a level of acoustical match between the audio signal and respective speech commands to identify the audio signal as belonging to one of three or more categories (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*) including:

        (a) recognized speech corresponding to an acoustical score above a first threshold value (*col. 7, lines 5-67*),

        (b) unrecognized speech corresponding to an acoustical score below the first threshold value and above a second threshold value (*col. 7, lines 5-67*), and

        (c) non-speech corresponding to an acoustical score below the second threshold value (*col. 7, lines 5-67*); and

take an appropriate action if the audio signal is identified as belonging to the

category of recognized speech, generating a generic response and providing it to a user

if the audio signal is identified as belonging to the category of unrecognized speech (*col.*

10, lines 30-40 specifically indicates that "the user can be informed of the failure of the

recognition of the first stage and be requested to utter the command word again"; the

terms "informed" and "requested" suggest a generic response to the user due to

recognition failure of the input command word; also referring to col. 4, lines 1-30), and

ignoring or discarding the audio signal if the audio signal is identified as belonging to the

category of non-speech (*transition from state 3 to state 5 in figure 2; when the input is*

uncertain or very uncertain recognition (or noise), the input is discarded as indicated in

the transition from state 3 to state 5 in figure 2).

7.   Regarding claims 3-4, Iso-Sipilaet et al. further disclose that a generic response

is a visual/audible response (*col. 10, lines 30-41*).

8.   Regarding claims 35-38, Iso-Sipilaet et al. further disclose the method of claim 34

further comprising providing feedback according to the category identified for the audio

signal (*col. 10, lines 30-41*), wherein the category of non-speech includes background

noise and background speech (*col. 7, lines 5-67 and figure 1, unrecognized word that is*

classified below a second threshold value can be noise or unrecognized speech), and

wherein the category of recognized speech is identified when the audio signal is

unambiguously recognized (*col. 7, lines 5-67 and figure 1 shows two different threshold*

values; score of the recognition result is compared with the threshold values to

determine if the input command is recognized, unrecognized, or very uncertain/noise).

9.   Regarding claim 39, Iso-Sipilaet et al. further disclose the method of claim 34

wherein identifying the category of the audio signal includes computing a quantity

characterizing a match of the audio signal with the speech models and identifying the

category according to the computed quantity (*col. 7, lines 5-67 and figure 1 shows two*

different threshold values; score of the recognition result is compared with the threshold

values to determine if the input command is recognized, unrecognized, or very

uncertain/noise; the confidence score is the quantity).

10.   Regarding claims 5 and 19, Iso-Sipilaet et al. further disclose that the

unrecognized speech comparison process includes a user speech modeling process for

performing an acoustical analysis of the user's speech command and generating a user

speech acoustical model for said user's speech command (*col. 9, lines 31-38, extracting*

speech features from the input speech signal and comparing the extracted speech

features with speech feature models).

11.   Regarding claims 6 and 20, Iso-Sipilaet et al. further disclose that the

unrecognizable speech comparison process further includes a recognized speech

modeling process for performing an acoustical analysis of each of the plurality of

recognized speech commands and generating a recognized speech acoustical model

for each recognized speech command, thus generating a plurality of recognized speech

acoustical models (*col. 9, lines 31-38, extracting speech features from the input speech*

signal and comparing the extracted speech features with speech feature models).

12.   Regarding claims 7 and 21, Iso-Sipilaet et al. further disclose that the

unrecognized speech comparison process further includes an acoustical model

comparison process for comparing the user speech acoustical model to each of the

recognized speech acoustical models, thus defining the plurality of acoustical scores

which relate to the user's speech command, one score for each the comparison

performed (*col. 9, lines 31-38, extracting speech features from the input speech signal*

and comparing the extracted speech features with speech feature models producing

recognition scores or probabilities).

13.   Regarding claims 8 and 22, Iso-Sipilaet et al. further disclose that the

unrecognized speech comparison process further includes an unrecognized speech

window process for defining an acceptable range of acoustical scores indicative of

unrecognized speech, wherein the user's speech command is defined as unrecognized

speech if the acoustical score, chosen from a plurality of acoustical scores, which

indicates the highest level of acoustical match falls within an acceptable range of

acoustical scores (*col. 9, lines 25-56*).

14.   Regarding claims 25-27, Iso-Sipilaet et al. further disclose the computer readable

medium is a random access memory (RAM), read only memory (ROM), a hard disk

drive (*figure 5, RAM and ROM, RAM or ROM can be considered a hard disk drive*).

15.   Regarding claims 29-32, Iso-Sipilaet et al. further disclose the processor and

memory of claim 28, wherein said processor and memory are incorporated into a

wireless communication device, cellular phone, PDA, and palmtop computer (*figure 5 is*

a wireless device, or cellular phone; Today's cellular phones have functionalities of a

PDA and palmtop, thus, a cellular phone is considered a PDA or palmtop).

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

17.   Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Iso-Sipilaet et al. (US 6697782) Gammel et al. (US 5832429).

18.   Regarding claims 9 and 23, Iso-Sipilaet et al. fail to disclose that a plurality of

recognized speech commands includes an unrecognized speech entry, the recognized

speech modeling process further performs an acoustical analysis on the unrecognized

speech entry to generate an unrecognized speech acoustical model for the

unrecognized speech entry, and the acoustical model comparison process further

compares the user speech acoustical model to the unrecognized speech acoustical

model to define an unrecognized speech acoustical score; wherein the user's speech

command is defined as unrecognized speech if an unrecognized speech acoustical

score indicates a higher level of acoustical match than any of the plurality of acoustical

scores.

However, Gammel et al. teach a process for performing an acoustical analysis on

the unrecognized speech entry to generate an unrecognized speech acoustical model

for the unrecognized speech entry (*col. 1, lines 30-31 and col. 5, lines 55-63*), and the

acoustical model comparison process further compares the user speech acoustical

model to the unrecognized speech acoustical model to define an unrecognized speech

acoustical score (*col. 1, lines 30-31*), wherein the user's speech command is defined as

unrecognized speech if an unrecognized speech acoustical score indicates a higher

level of acoustical match than any of the plurality of acoustical scores (*col. 8, lines 13-*

15).

Since Iso-Sipilaet et al. and Gammel et al. are analogous art because they are

from the same field of endeavors, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to modify Iso-Sipilaet et al. by incorporating

the teaching of Gammel et al. in order to create a garbage model used to explain

unrecognized speech.

19.   Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iso-

Sipilaet et al. (US 6697782) in view of Gabai et al. (US 6160986).

20.   Regarding claim 33, Iso-Sipilaet et al. fail to specifically disclose the processor

and memory of claim 28, wherein said processor and memory are incorporated into a

child's toy. However, Gabai et al. teach that a processor and memory are incorporated

into a child's toy (*figures 6 and 7*).

Since Iso-Sipilaet et al. and Gabai et al. are analogous art because they are from

the same field of endeavors, it would have been obvious to one of ordinary skill in the

art at the time the invention was made to modify Iso-Sipilaet et al. by incorporating the

teaching of Gabai et al. in order to provide a mean for storing application programs used

to process the input speech.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631.

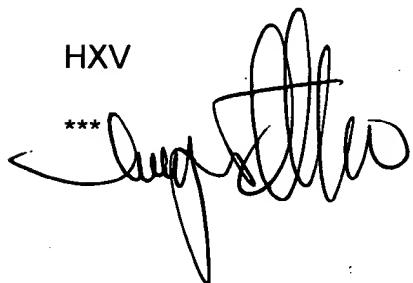The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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HXV   10/16/2007

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